

WHAT IS CLAIMED IS:

1. A heating device utilizing electromagnetic induction, comprising:

a heating member; and

5 induction heating means opposed to the heating member for causing the heating member to heat through electromagnetic induction, the induction heating means including an exciting coil for generating a magnetic field and a coil guide member on which the exciting coil is wound,

10 wherein the exciting coil is formed in at least two layers in such a manner that a first layer is formed on a circumferential surface of the coil guide member by winding a plurality of turns and a second layer is formed around and outside the first layer on a side opposite to the coil guide member, and

15 winding of each of the second layer and following layers is started from a position close to a winding start position of the first layer.

2. The heating device utilizing electromagnetic induction according to claim 1, wherein the coil guide member  
20 comprises an opening and a housing that is curved so as to cover the heating member and accommodates the heating member.

3. The heating device utilizing electromagnetic induction according to claim 2, wherein, in each of the first,  
25 second, and following layers the exciting coil is wound from a top portion of the coil guide member toward a bottom opening

thereof.

4. A fuser utilizing electromagnetic induction for fusing unfused toner on a recording medium by melting and  
5 pressurizing the unfused toner on the recording sheet while nipping and transporting the recording medium by a fusing nip portion, comprising:

a heating member that is a magnetic metal member as a rotary body;

10 induction heating means opposed to the heating member, for causing the heating member to heat through electromagnetic induction, the induction heating means including an exciting coil for generating a magnetic field and a coil guide member on which the exciting coil is wound; and

15 a pressing member that is brought into pressure contact with the heating member or a belt member that is heated by the heating member and is rotated in a forward direction to form the fusing nip portion,

wherein the exciting coil is formed in at least two layers  
20 in such a manner that a first layer is formed on a circumferential surface of the coil guide member by winding a plurality of turns and a second layer is formed around and outside the first layer on a side opposite to the coil guide member, and

winding of each of the second layer and following layers  
25 is started from a position close to a winding start position of the first layer.

5. The fuser utilizing electromagnetic induction according to claim 4, wherein the coil guide member comprises an opening and a housing that is curved so as to cover the heating member and accommodates the heating member.

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6. The fuser utilizing electromagnetic induction according to claim 5, wherein, in each of the first and second layers the exciting coil is wound from a top portion of the coil guide member toward a bottom opening thereof.

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7. A heating device for an image forming apparatus comprising:

an exciting coil;

15 a heating roller that is induction-heated through a magnetic field of the exciting coil;

a fusing roller for thermally fusing an unfused image on a recording medium;

20 a heat conduction belt stretched between the heating roller and the fusing roller, for transmitting heat from the heating roller to the fusing roller; and

a core member that is shaped like a pyramid so as to cover part of the heating roller and on which the exciting coil is wound,

25 wherein the exciting coil is wound in more layers on a top portion of the pyramid-shaped core member than on a foot portion thereof.

8. The heating device for an image forming apparatus according to claim 7, wherein the exciting coil is wound in such a manner that a first layer is wound from the top portion of the pyramid-shaped core member to the foot portion thereof, then  
5 the exciting coil is returned to the top portion, and then a second layer is wound from the top portion.

9. The heating device for an image forming apparatus according to claim 7, further comprising a ring that is made  
10 of a conductive metal and disposed in the foot portion of the core member.

10. The heating device for an image forming apparatus according to claim 8, further comprising a ring that is made  
15 of a conductive metal and disposed in the foot portion of the core member.